

Module 3: Patient Assessment

Lesson 3-1 Patient Assessment

Objectives

Objectives Legend

C=Cognitive P=Psychomotor A=Affective

1 = Knowledge level

2 = Application level

3 = Problem-solving level

Cognitive Objectives

At the completion of this lesson, the CFR student will be able to:

- 3-1.1 Discuss the components of scene size-up. (C-1)
- 3-1.2 Describe common hazards found at the scene.
- 3-1.3 Determine if the scene is safe to enter. (C-2)
- 3-1.4 Discuss common mechanisms of injury/nature of illness. (C-1)
- 3-1.5 Discuss the reason for identifying the total number of patients at the scene. (C-1)
- 3-1.6 Describe the method for forming a general impression of the patient.
- 3-1.7 Discuss methods of assessing mental status. (C-1)
- 3-1.8 Differentiate between assessing mental status in the adult, child, and infant patient.
- 3-1.9 Describe methods used for assessing if a patient is breathing. (C-1)
- 3-1.10 Differentiate between a patient with adequate and inadequate breathing.
- 3-1.11 Describe the methods used to assess circulation. (C-1)
- 3-1.12 Differentiate between obtaining a pulse in an adult, child, and infant patient. (C-3)
- 3-1.13 Discuss the need for assessing the patient for external bleeding. (C-1)
- 3-1.14 Explain the reason for prioritizing a patient for care and transport. (C-1)
- 3-1.15 Discuss the components of vital signs. (C-1)
- 3-1.16 Describe methods used to obtain a breathing rate. (C-1)
- 3-1.17 Differentiate between shallow, labored and noisy breathing. (C-1)
- 3-1.18 Discuss methods used to obtain a pulse rate. (C-1)
- 3-1.19 Differentiate between a strong, weak, regular and irregular pulse. (C-1)
- 3-1.20 Discuss the methods used to assess the skin color, temperature, condition (capillary refill in infants and children). (C-1)
- 3-1.21 Differentiate between pale, blue, red and yellow skin color. (C-1)
- 3-1.22 Discuss the normal and abnormal skin temperature. (C-1)
- 3-1.23 Differentiate between hot, cool and cold skin temperatures. (C-1)
- 3-1.24 Discuss normal and abnormal skin conditions. (C-1)
- 3-1.25 Discuss normal and abnormal capillary refill in infants and children. (C-1)
- 3-1.26 Discuss the components of the physical exam. (C-1)
- 3-1.27 State the areas of the body that are evaluated during the physical exam.
- 3-1.28 Explain what additional questioning may be asked during the physical exam. (C-1)
- 3-1.29 Explain the components of the SAMPLE history. (C-1)

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- 3-1.30 Discuss the components of the on-going assessment. (C-1)
- 3-1.31 Describe the information included in the CFR "hand-off" report. (C-1)

Affective Objectives

At the completion of this lesson, the CFR student will be able to:

- 3-1.21 Explain the rationale for crew members to evaluate scene safety prior to entering.
- 3-1.22 Serve as a model for others by explaining how patient situations affect your evaluation of the mechanism of injury or illness. (A-2)
- 3-1.23 Explain the importance of forming a general impression of the patient.
- 3-1.24 Explain the value of an initial assessment. (A-2)
- 3-1.26 Explain the value of questioning the patient and family. (A-2)
- 3-1.27 Explain the value of performing the baseline vital signs. (A-2)
- 3-1.28 Defend the need for obtaining and recording an accurate set of vital signs. (A-2)
- 3-1.29 Explain the value of the physical exam. (A-2)
- 3-1.30 Explain the value of an on-going assessment. (A-2)
- 3-1.31 Explain the rationale for the feelings that these patients might be experiencing. (A-3)
- 3-1.32 Demonstrate a caring attitude when performing patient assessments.
- 3-1.33 Place the interests of the patient with as the foremost consideration when making any and all patient care decisions during patient assessment.
- 3-1.34 Communicate with empathy during patient assessment to patients as well as with family members and friends of the patient. (A-3)

Psychomotor Objectives

At the completion of this lesson, the CFR student will be able to:

- 3-1.32 Demonstrate the ability to differentiate various scenarios and identify potential hazards. (P-1)
- 3-1.33 Demonstrate the techniques for assessing mental status. (P-1,2)
- 3-1.34 Demonstrate the techniques for assessing the airway. (P-1,2)
- 3-1.35 Demonstrate the techniques for assessing if the patient is breathing.
- 3-1.36 Demonstrate the techniques for assessing if the patient has a pulse.
- 3-1.37 Demonstrate the techniques for assessing the patient for external bleeding. (P-1,2)
- 3-1.38 Demonstrate the techniques for assessment of breathing. (P-1, 2)
- 3-1.39 Demonstrate the skills associated with obtaining a pulse. (P-1, 2)
- 3-1.40 Demonstrate the techniques for assessing the patient's skin color, temperature, condition, and capillary refill in infants and children. (P-1,2)
- 3-1.41 Demonstrate questioning a patient to obtain a SAMPLE history.
- 3-1.42 Demonstrate the skills involved in performing the physical exam. (P-1,2)
- 3-1.43 Demonstrate the on-going assessment (P-1,2)

Preparation

Motivation:

Size-up is the first aspect of patient assessment. It begins as the CFR approaches the scene. During this phase, the CFR surveys the scene to determine if there are any threats that may cause an injury to the CFR, bystanders, or may cause additional injury to the patient.

The initial assessment, physical exam, and patient/family questioning are used to identify patients who require critical interventions.

Prerequisites:

Preparatory, Airway Modules

Materials

AV Equipment:

Utilize various audio-visual materials relating to emergency medical care. The continuous development of new audio-visual materials relating to EMS requires careful review to determine which best meet the needs of the program. Materials should be edited to ensure that the objectives of the curriculum are met.

EMS Equipment:

Exam gloves, airway management equipment, suction.

Personnel

Primary Instructor:

One EMT-B Instructor, knowledgeable in patient assessment.

Assistant Instructor:

The instructor-to-student ratio should be 1:6 for psychomotor skill practice. Individuals used as assistant instructors should be knowledgeable about patient assessment.

Recommended Minimum Time to Complete:

Three hours

Presentation

Declarative (What)

- I. Scene Size-up
 - A. Body substance isolation review
 1. Eye protection if necessary
 2. Gloves if necessary
 3. Gown if necessary
 4. Mask if necessary
 - B. Scene Safety
 1. Is the scene safe?
 - a. Definition - an assessment of the scene and surroundings that will provide valuable information to the CFR and will help ensure the well-being of the CFR.
 - b. Personal protection - Is it safe to approach the patient?
 - (1) Crash/rescue scenes
 - (2) Toxic substances - low oxygen areas
 - (3) Crime scenes - potential for violence
 - (4) Unstable surfaces: slope, ice, water
 - c. Protection of the patient - environmental considerations
 - d. Protection of bystanders - do not let the bystander become ill or injured
 - e. If the scene is unsafe, make it safe. Otherwise, do not enter.
 - C. What is the mechanism of injury or nature of illness?
 1. Mechanism of injury - an evaluation of the forces that caused an injury. May be beneficial in determining the presence of internal injuries.
 2. Trauma - Mechanism of injury - determine from the patient, family or bystanders and inspect the scene. What is the mechanism of injury?
 3. Medical - Nature of illness - determine from the patient, family, or bystanders. Why EMS was called?
 - D. How many patients are involved?
 1. Obtain additional help prior to contact with patients: law enforcement, fire, rescue, ALS, utilities.
 2. CFR is less likely to call for help if involved in patient care.
 3. Begin triage.
 - E. Are additional EMS resources en route?
- II. Initial Assessment
 - A. The initial assessment is completed to assist the CFR in identifying immediate threats to life.
 - B. General Impression of the patient
 1. Based on the CFR's immediate assessment of the environment and the patient's chief complaint.

2. Determine if ill (medical) or injured (trauma).
 - a. Is this trauma?
 - b. Is this medical?
 - c. Is it unclear? - Treat as trauma
 3. Approximate age
 4. Sex
- C. Assess mental status/responsiveness - stabilize spine if trauma.
1. Begin by speaking to the patient.
 - a. State your name
 - b. Tell the patient that you are a first responder
 - c. Explain that you are here to help.
 2. Levels of mental status/responsiveness
 - a. Alert
 - b. Verbal - responds to verbal stimuli
 - c. Painful - responds to painful stimuli.
 - d. Unresponsive
 3. Infant and child considerations
 - a. Infants and younger children will not respond to methods used to assess responsiveness in adults.
 - b. Assess interaction with environment and parents.
- D. Assess the patient's airway status.
1. Responsive patient - Is the patient talking or crying?
 - a. If yes, assess for adequacy of breathing.
 - b. If no, open the airway.
 2. Unresponsive patient - Is the airway open?
 - a. Open the airway
 - (1) Medical - Head tilt-chin lift
 - (2) Trauma - Jaw-thrust without head-tilt
 - b. Inspect the airway
 - c. Clear the airway as needed
- E. Assess the patient's breathing
1. Responsive
 - a. If breathing is adequate, oxygen may be indicated.
 - b. If breathing is inadequate, patient should receive high flow oxygen (defined as a 15 LPM nonrebreather mask)
 2. Unresponsive
 - a. If breathing is adequate, open and maintain the airway and provide high concentration oxygen.
 - b. If breathing is inadequate, open and maintain the airway, and assist the patient's breathing with ventilatory adjuncts. In all cases oxygen should be used.
 3. If patient is not breathing, open and maintain the airway and ventilate using ventilatory adjuncts. In all cases oxygen should be used.

- F. Assess the patient's circulation.
 - 1. Assess the patient's pulse.
 - a. Adults
 - (1) Responsive - assess radial pulse
 - (2) Unresponsive - assess carotid pulse
 - b. Infants - assess brachial pulse
 - c. Children
 - (1) Unresponsive - assess carotid or femoral
 - (2) Responsive - assess brachial or radial
 - 2. Assess if major bleeding is present. If bleeding is present, control bleeding as described in *Module 5: Illness and Injury, Lesson 5-2 Bleeding and Soft Tissue Injuries*
 - 3. Assess the patient's skin color
 - a. Normal - pink
 - b. Abnormal skin conditions
 - (1) Pale
 - (2) Blue or gray (cyanotic)
 - (3) Flushed or red
 - (4) Yellow (jaundice)
 - 4. Assess the patient's skin temperature
 - a. Normal - warm
 - b. Abnormal skin temperatures
 - (1) Hot
 - (2) Cool
 - (3) Cold
 - (4) Clammy - cool & moist
 - 5. Identify priority patients
- G. Update responding EMS unit with a brief Radio Report
 - 1. Age and sex
 - 2. Chief complaint
 - 3. Mental status/Responsiveness
 - 4. Airway and breathing status
 - 5. Circulation status
 - 6. Identify priority patients
 - 7. Determine estimated time of arrival of additional EMS resources

III. Physical Exam

- A. The physical exam is designed to locate and begin the initial management of the signs and symptoms of illness or injury.
- B. The CFR should complete a physical exam on all patients following the initial assessment.
- C. Patient and injury specific, e.g., cut finger would not require the complete physical exam.
- D. As the CFR locates signs and symptoms of illness or injury, there may be specific questions that the CFR should ask. This material is described in specific lessons on Illness and Injury.

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- E. Baseline Vital Signs
1. Breathing – assessed by observing the patient’s chest rise and fall.
 - a. Rate is determined by counting the number of breaths in a 30 second period and multiplying by 2. Care should be taken not to inform the patient, to avoid influencing the rate.
 - b. Quality of breathing can be determined while assessing the rate. Quality can be placed in 1 of 4 categories:
 - (1) Normal – average chest wall motion, not using accessory muscles.
 - (2) Shallow – slight chest or abdominal wall motion.
 - (3) Labored –
 - i. An increase in the effort of breathing
 - ii. Grunting or stridor
 - iii. Often characterized by the use of accessory muscles
 - iv. Nasal flaring, retractions in infants and children
 - v. Sometimes gasping
 - (4) Noisy – an increase in the audible sound of breathing. May include snoring, wheezing, gurgling, crowing.
 2. Pulse – assessed by palpating anywhere on the body where an artery passes over a hard structure such as a bone.
 - a. Initially a radial pulse should be assessed in all conscious patients one year or older. In patients less than one year of age a brachial pulse should be assessed.
 - b. If the pulse is present, assess rate and quality.
 - (1) Rate is the number of beats felt in 30 seconds multiplied by 2.
 - (2) Quality of pulse can be characterized as:
 - i. Strong
 - ii. Weak
 - iii. Regular
 - iv. Irregular
 - c. If peripheral pulse is not palpable, assess carotid pulse.
 - (1) Use caution. Avoid excess pressure on geriatric patients.
 - (2) Never attempt to assess carotid pulse on both sides at one time.
 3. Assess skin
 - a. The patient’s skin color should be assessed in the nail beds, oral mucosa, and conjunctiva.
 - (1) In infants and children palms of hands and soles of feet should be assessed.
 - (2) Normal skin – pink
 - (3) Abnormal skin colors
 - i. Pale – indicating impaired blood flow
 - ii. Cyanotic (blue-gray) – indicating inadequate oxygen or impaired blood flow

- iii. Flushed (red) – indicating exposure to heat or carbon monoxide poisoning
 - iv. Jaundice (yellow) – indicating liver abnormalities
 - b. The patient's temperature should be assessed by placing the back of your hand on the patient's skin.
 - (1) Normal – warm
 - (2) Abnormal skin temperatures
 - i. Hot – indicating fever or an exposure to heat
 - ii. Cool – indicating impaired blood flow or exposure to cold
 - iii. Cold – indicates extreme exposure to cold
 - c. Assess the condition of the patient's skin.
 - (1) Normal – dry
 - (2) Abnormal – skin is wet, moist, or dry
 - d. Assess capillary refill in infants and children less than six years of age.
 - (1) Capillary refill in infants and children is assessed by pressing on the patient's skin or nail beds and determining time for return to initial color.
 - (2) Normal capillary refill in infants and children is < 2 seconds.
 - (3) Abnormal capillary refill in infants and children is > 2 seconds.
 - F. Perform a physical examination on the patient to gather additional information.
 - 1. Inspect (look) and palpate (feel) for the following signs of injury:
 - a. Deformities
 - b. Open injuries
 - c. Tenderness
 - d. Swelling
 - e. The mnemonic D-O-T-S is helpful in remembering the signs of injury.
 - 2. Briefly assess the following body in a logical manner:
 - a. Head
 - b. Neck
 - c. Chest
 - d. Abdomen
 - e. Pelvis
 - f. All four extremities
- IV. Obtain History from the Patient or Family
 - A. Medical identification tags may be beneficial in assessing allergies, medications, or past medical history.
 - B. For medical patients the SAMPLE history may be completed prior to the physical exam.
 - C. SAMPLE History
 - 1. Signs/Symptoms

- a. "Why did you call EMS today?"
 - b. Sign - Any medical or trauma condition displayed by the patient and identifiable by the CFR,
 - (1) Hearing - respiratory distress
 - (2) Seeing - bleeding
 - (3) Feeling - skin temperature.
 - c. Symptom - any condition described by the patient,
 - (1) Difficulty breathing
 - (2) Headache
 - (3) Pain
2. Allergies
- a. "Are you allergic to anything?"
 - b. Medications
 - c. Environmental allergies
 - d. Food
3. Medications
- a. "Do you take any prescription or non-prescription medicine?"
 - b. Prescription
 - (1) Current
 - (2) Recent
 - c. Non-prescription
 - (1) Current
 - (2) Recent
4. Pertinent Past History
- a. "Are you seeing a Doctor for anything?"
 - b. "Have you ever been in the hospital?"
 - c. Medical
 - d. Surgical
 - e. Trauma
5. Last oral intake: Solid or liquid
- a. "When was the last time you had anything to eat or drink?"
 - b. Time
 - c. Quantity
6. Events leading to the injury or illness
- a. "What were you doing when this happened?"
 - b. "Where there any other associated symptoms?"

V. On-Going Assessment

- A. While awaiting additional EMS resources, the CFR should continue to assess the patient.
- B. The initial assessment should be repeated.
 1. Repeat every 15 minutes for a stable patient
 2. Repeat every 5 minutes for an unstable patient
 3. Reassess mental status/responsiveness
 4. Maintain an open airway.

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5. Monitor breathing
 6. Monitor pulse
 7. Monitor skin color and temperature
 8. Reassess vital signs
- C. Repeat physical exam as needed.
- D. Check interventions to ensure that they are effective.
- E. In addition to the continued assessments, the CFR should calm and reassure the patient.
- F. Upon arrival of EMS, the CFR should provide a "hand-off" report.
1. Age and sex
 2. Chief complaint
 3. Mental Status/responsiveness
 4. Airway and breathing status
 5. Circulation status
 6. Physical findings
 7. SAMPLE history
 8. Interventions provided

Application

Procedural (How)

The assessment is completed by visually inspecting, physically palpating and in some cases listening, and verbally communicating with the patient and family. The assessment is an input/output process, where assessment findings are the input and emergency medical care is the output.

1. Review of scene size-up.
2. Review of the initial assessment.
3. Students should be shown audio-visual materials of various trauma scenes to evaluate the mechanism of injury.
4. Demonstrate an initial patient assessment.
5. Review airway and breathing assessment.
6. Review methods of assessing mental status/responsiveness.
7. Demonstrate obtaining radial, carotid, and brachial pulses.
8. Demonstrate the physical exam
9. Demonstrate an on-going assessment
10. Demonstrate a hand-off report.

Contextual (When, Where, Why)

Size-up represents the very beginning of patient assessment. It requires the CFR to evaluate several aspects concerning the situation in a very short period of time. It is essential for assuring the safety of the CFR and the patient. This information may be obtained as part of dispatch, but should always be reassessed upon arrival at the scene. For some situations, size-up is an on-

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going process. As additional information is obtained, modification is made to the size-up of the patient and the situation overall.

Perform initial assessment on all patients after assuring scene and personal safety. If the scene is safe and the environment permits, perform the assessment before moving the patient. The initial assessment is a rapid means of understanding patient condition and priorities of care.

The physical exam and questioning the patient and family are done after the initial assessment and correction of immediate threats to life. During this process, obtain additional information regarding the patient's condition.

The on-going assessment is completed on all patients while awaiting additional EMS resources. This assessment allows the CFR to calm and reassure the patient, and at the same time, to reassess the ABCs.

Student Activities

Auditory (Hearing)

1. The student should hear simulations of various safe and unsafe scenes.
2. Students should hear recordings of various patient conditions to listen for clues concerning the general impression.
3. Students should hear normal and abnormal airway noises.
4. Students should hear breathing.
5. Students should hear information input from a simulated responsive patient or from others regarding signs and symptoms for patients that are unresponsive.
6. The students should hear the components of scene size-up.
7. The students should hear the components of the initial assessment.
8. The students should hear the components of the physical exam.
9. The students should hear the components of the on-going assessment.

Visual (Seeing)

1. The student should see simulations of various safe and unsafe scenes.
2. The student should see the flow charts from Appendix F.
3. Students should see audio-visual materials of various injuries.
4. Students should see the inspection and palpation of programmed patients for various injuries and patterns of injury.
5. Students should see landmarks for palpation and inspection.

Kinesthetic (Doing)

1. The student should role play actions to take at various safe and unsafe scenes.

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2. The student should use the flow chart from Appendix F.
3. Students should practice establishing mental status on programmed patients (fellow students) with various mental statuses.
4. Students should practice airway opening techniques on manikins and each other.
5. Students should practice assessing breathing.
6. Students should practice assessing pulses.
7. Students should practice assessing for major bleeding.
8. Students should practice recording assessment findings.
9. Students should practice inspecting and palpating.
10. Students should practice scene size-up.
11. Students should practice the initial assessment.
12. Students should practice the physical exam.
13. Students should practice questioning the patient to obtain a SAMPLE history.
14. Students should practice the on-going assessment.

Instructor Activities

Facilitate discussion and supervise practice.

Reinforce student progress in cognitive, affective, and psychomotor domains.

Redirect students having difficulty with content. (Complete remediation form.)

Evaluation

Practical:

Evaluate the actions of the CFR students during role play, practice, or other skill stations to determine their compliance with the cognitive and affective objectives and their mastery of the psychomotor objectives of this lesson.

Written:

Develop evaluation instruments, e.g., quizzes, oral reviews, and handouts, to determine if the students have met the cognitive and affective objectives of this lesson.

Remediation

Identify students or groups of students who are having difficulty with this subject content. Complete remediation sheet from the instructor's course guide.

Enrichment

What is unique in the local area concerning this topic? Complete enrichment sheets from instructor's course guide and attach with lesson plan.

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